

WHAT IS CLAIMED IS:

- 1 1. A steering column for a vehicle, comprising:
2 a steering shaft;
3 a column jacket accommodating therein the steering
4 shaft, the column jacket being integrally formed by bending
5 a metal plate into a substantially U-shape to define a pair
6 of opposed side walls and arranged with an opening of the
7 U-shape facing downward;
8 upper and lower brackets mounted on upper and lower ends
9 of the column jacket, respectively; and
10 upper and lower bearings fixed to the upper and lower
11 brackets, respectively, to support the steering shaft
12 rotatably.

- 1 2. A steering column according to Claim 1,
2 each of the upper and lower brackets having a
3 cylindrical portion through which the steering shaft is
4 passed, and defining therein a recess at a position around
5 the cylindrical portion, and
6 the column jacket having protrusions formed on the
7 upper and lower ends thereof to be engaged in and caulked or
8 welded to the recesses of the upper and lower brackets,
9 respectively.

- 1 3. A steering column according to Claim 2, wherein the
2 upper and lower bearings are fitted in the cylindrical
3 portions of the upper and lower brackets, respectively.

- 1 4. A steering column according to Claim 2, wherein the each
2 of the upper and lower brackets is integrally formed from a

3 metal plate by press forming, and the cylindrical portions
4 of the upper and lower brackets are formed by burring.

1 5. A steering column according to Claim 1,
2 the side walls of the column jacket having a pair of
3 opposed through holes and slots formed therein, and
4 the steering column further comprising:
5 a fixed bracket mounted on the column jacket and having
6 a pair of opposed clamping walls to clamp the side walls
7 therebetween, the clamping walls having a pair of vertically
8 elongated tilt holes formed therein at positions
9 corresponding to the through holes of the side walls,
10 a bolt passing through the through holes of the side
11 walls and the tilt holes of the clamping walls, the bolt being
12 movable through the tilt holes such that the column jacket
13 is tilted together with the steering shaft;
14 a nut fitted onto the bolt to cause the clamping walls
15 to clamp the sidewalls therebetween and thereby lock the
16 steering shaft at a desired tilt position; and
17 a reinforcing plate having protrusions engaged in the
18 slots, respectively, to be held between the side walls of the
19 column jacket.

1 6. A steering column according to Claim 1, wherein the
2 column jacket has flanges to which a key cylinder is attached,
3 and the flanges are integrally formed by bending the
4 respective side walls.

1 7. A steering column according to Claim 1,
2 the upper bracket having a combination switch
3 attachment portion formed integrally thereon and to which a

4 combination switch is attached, and
5 each of the lower bracket and the fixed bracket having
6 a mounting portion integrally formed thereon and fixed to a
7 vehicle body for mounting the steering column on the vehicle
8 body.

1 8. A steering column, comprising:

2 a steering shaft;

3 a column jacket accommodating therein the steering
4 shaft, the column jacket being formed into one piece and
5 having a substantially U-shape in cross section throughout
6 its length to define a pair of opposed side walls extending
7 axially of the steering column;

8 upper and lower brackets mounted on upper and lower ends
9 of the column jacket, respectively;

10 upper and lower bearings fixed to the upper and lower
11 brackets, respectively, to support the steering shaft
12 rotatably.

1 9. A steering column according to Claim 8, wherein the
2 column jacket is arranged with an opening of the U-shape
3 facing downward.

1 10. A steering column according to Claim 8,

2 each of the upper and lower brackets having a
3 cylindrical portion through which the steering shaft is
4 passed, and defining therein a recess at a position around
5 the cylindrical portion, and

6 the column jacket having protrusions formed on the
7 upper and lower ends thereof to be engaged in and caulked or
8 welded to the recesses of the upper and lower brackets,

9 respectively.

1 11. A steering column according to Claim 10, wherein the
2 upper and lower bearings are fitted in the cylindrical
3 portions of the upper and lower brackets, respectively.

1 12. A steering column according to Claim 8,
2 the side walls having a pair of opposed through holes
3 formed therein, and

4 the steering column further comprising:

5 a fixed bracket mounted on the column jacket and having
6 a pair of opposed clamping walls to clamp the side walls
7 therebetween, the clamping walls having a pair of vertically
8 elongated tilt holes formed therein at positions
9 corresponding to the through holes of the side walls,

10 a bolt passing through the through holes of the side
11 walls and the tilt holes of the clamping walls, the bolt being
12 movable through the tilt holes such that the column jacket
13 is tilted together with the steering shaft;

14 a nut fitted onto the bolt to cause the clamping walls
15 to clamp the sidewalls therebetween and thereby lock the
16 steering shaft at a desired tilt position; and

17 a reinforcing plate held between the side walls of the
18 column jacket to surround the bolt.

1 13. A steering column according to Claim 6, wherein the
2 column jacket comprises has flanges integral with the side
3 walls, respectively, for attachment of a key cylinder.

1 14. A steering column according to Claim 8,
2 the upper bracket having a combination switch

3 attachment portion formed integrally thereon and to which a
4 combination switch is attached, and
5 each of the lower bracket and the fixed bracket having
6 a mounting portion integrally formed thereon and fixed to a
7 vehicle body for mounting the steering column on the vehicle
8 body.